

Brookhaven National Laboratory/National Synchrotron Light Source				
Subject:	DUV-FEL Smoke Detector Test Procedure			
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[Revision/Review Log](#)

Introduction

The DUVFEL modulators have smoke detectors installed that upon detecting smoke open a set of contacts that drops out all AC power to the racks. The contacts are in series with the emergency off "CRASH" buttons located at each modulator rack. Activating any modulators' emergency off "CRASH" button or smoke detector drops AC power to all modulators. One exception is that in modulators D and E AC 110V power is maintained to the PLC to allow control functions to continue.

This procedure outlines the test plan for the smoke detectors. This testing shall be done every six months.

Procedure

- 1) Bring the DUVFEL to Aux. On status via the EPICS SDL.ADL System control panel.
- 2) Turn filament power supplies on each klystron to zero, to prevent shocking the tube.
- 3) Verify that AC power is on to each system by observing AC indicator lights on thyatron chassis (110 Volts), HV power supply (208 Volts) and solenoid focusing power supply (480 Volts)
- 4) Spray "Smoke in a Can" into modulator **A** cabinet to trigger smoke alarm.
- 5) Verify that AC power drops out to all modulators by observing front panel AC on indicator lights on, thyatron chassis (110 Volts), HV power supply (208 Volts), and solenoid focusing power supply (480 volts).
- 6) Reset system.
- 7) Repeat steps 3-6 for Modulators **B, C, D and E**.
- 8) Return system to nominal setpoints.